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NEW AUSTRALIAN FISHES. PART 8. A NEW SPECIES OF *AULOTRACHICHTHYS* (TRACHICHTHYIDAE)

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Abstract

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Aulotrachichthys, presented by Fowler (1938) as a subgenus of the trachichthyid *Paratrachichthys*, is here recognised as a separate genus. A new species, *Aulotrachichthys pulsator*, from South Australian waters, is described. It is distinguishable from other congeners by various combinations of its body form, eye size, extent of striated tissue and meristic values.

Introduction

Nine species of roughy, family Trachichthyidae, are currently placed in the genus *Paratrachichthys* Waite, 1899 (Gon, 1983; Kotlyar, 1980). These species are separable into two natural groups on the basis of the presence or absence of striated luminous tissue on the head, pectoral-fin base and lower portion of the sides. The two groups are here recognized as distinct genera. *Paratrachichthys,* which lacks striae, comprises two described species, and *Aulotrachichthys* (Fowler, 1938), which has striae, comprises seven described species. During a collecting trip to the Investigator Group of islands at the eastern end of the Great Australian Bight, the second author acquired a series of a distinctive undescribed species referrable to this genus. The species is the shallowest dwelling member of the genus known to date. Type specimens are lodged in the Museum of Victoria (NMV) and the South Australian Museum (SAMA).

Aulotrachichthys Fowler

Paratrachichthys (Aulotrachichthys) Fowler, 1938: 40.

Type species. Paratrachichthys latus Fowler, 1938, by original designation.

Discussion. Aulotrachichthys has been consistently regarded as a subgeneric taxon, as originally proposed, or ignored by authors treating species referrable to it. A recent examination of the closely related, but distinctive *Sorosichthys ananessa* Whitley, 1945, revealed the presence of striated luminous tissue in the same configuration as found in species referrable to *Aulotrachichthys*. In addition, *S. ananessa* has the anus positioned between the bases of the pelvic fins as do the nine species currently in *Paratrachichthys*, but unlike all other trachichthyids. As the striated tissue is a unique structure unlikely to have evolved independently in *Sorosichthys* and those species referrable to *Aulotrachichthys*, it is hypothesized that the two groups share an immediate common ancestry which excludes species currently placed in *Paratrachichthys* without striae. *Aulotrachichthys* is therefore regarded as a generic taxon closely related to *Paratrachichthys* and *Sorosichthys. Aulotrachichthys* is most easily separable from *Paratrachichthys* by the diagnostic characters given by Fowler in his original description, "the presence of the subcutaneous silvery-grey striated tubes and areas along lower surface of body". In other aspects, the two genera are very similar.

Aulotrachichthys pulsator sp. nov.
Figure 1

Material examined. Holotype: South Australia, Investigator Group, Topgallant Island (33°43'S, 134°38'E), 25 m, rocky reef, rotenone, R.H. Kuiter, 1 Apr 1982, NMV A3726 (64.3 mm SL).

Paratypes: Collected with holotype, NMV A3727 (14 specs.,

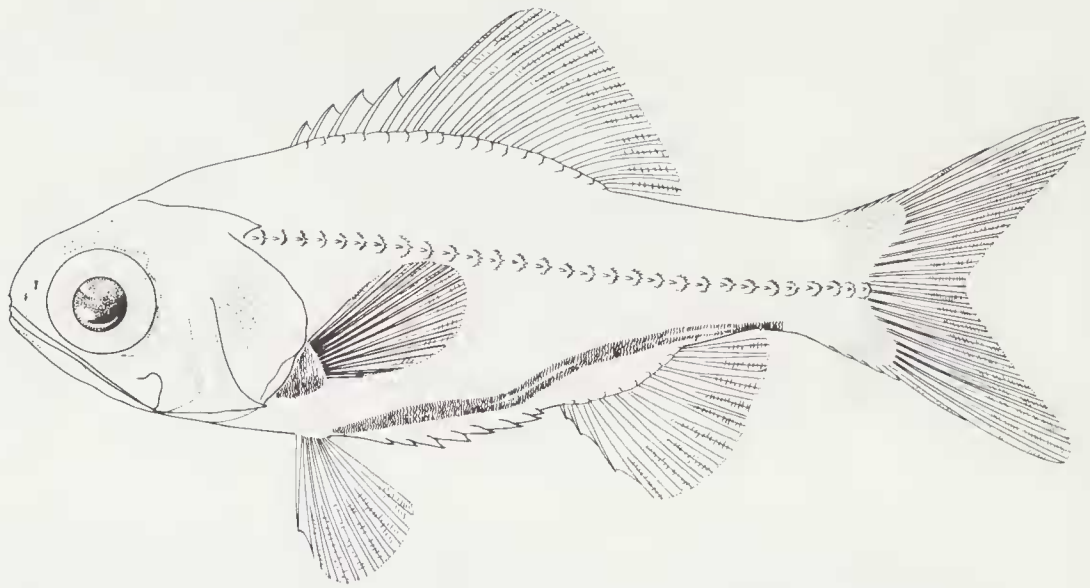

Figure 1. *Aulotrachichthys pulsator* sp. nov., holotype, NMV A3726, 64.3 mm SL, scale detail omitted.

35.1-65.1 mm SL); SAMA F5490 (64.0 mm SL).

Description. Dorsal-fin rays V, 13. Anal-fin rays II, 9. Lateral-line scales 28. Belly scutes 8-9 (9 in holotype). Gill rakers 5-7+1+11-13=17-21 (usually 6+1+12, 6+1+12 in holotype). Body moderately shallow, body depth at dorsal-fin origin 33-35% (34% in holotype) SL, dorsal and ventral profiles nearly symmetrical. Eye large, horizontal diameter 35-39% (35% in holotype) head length, placed almost midlaterally on head. Striated silvery tissue extending posteriorly from each pelvic-fin base along ventral profile of sides nearly to caudal-fin base. Dorsal-fin spines becoming progressively and distinctly longer posteriorly, only second and third subequal; first three segmented rays likewise becoming proceedingly longer and subsequent rays becoming progressively shorter; profile of dorsal-fin broadly triangular. Reaches a total length of at least 80 mm.

In life, brownish on back, silvery below, with golden hue. Fins whitish, with brownish tint basally on caudal-fin lobes.

Distribution. Known only from rocky reefs at depths of 25 m off Topgallant Island, South Australia.

Etymology. From the Latin, *pulsator* (striker or beater), in reference to the ability of this species to make click-like sounds when disturbed.

Remarks. This species is the most streamlined and shallow dwelling member of the genus. No others have been taken at depths of less than 50 m, and most occur in waters of more than 100 m. Unlike many congeners whose ventral profile is noticeably more deeply rounded than the dorsal profile at large adult sizes, the opposing profiles of the body in this species at this stage are virtually mirror images of one another. In addition, the very large eye appears to be placed slightly closer to the lateral midline of the head than in most other species. *Aulotrachichthys pulsator* differs markedly in these respects from the other Australian member of the genus occurring off the eastern coast. The latter is very similar in appearance to *A. novaezelandicus* Kotlyar, 1980, known only from New Zealand waters. However, the identity of the eastern Australian species cannot be made conclusively with information at hand. Obvious differences between the two Australian species include the presence of an additional segmented anal-fin ray, a proportionately shallower body and larger eye in *A. pulsator.*

Acknowledgements

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